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Prospects of scientific and technical development in Ukraine

The development of science and technique is an important society progress that gives welfare to members of society, their spiritual and intellectual growth. That is why we need state support in development of science, purposeful policy to provide the usage of achievements of national and world science and technique in order to satisfy social, economic, cultural and other needs.

To satisfy these needs *the law on scientific and scientific-technical activity was accepted in Ukraine*. This law will settle current problems connected to the development of science and technique and scientific-technical progress in general. The scope of this law is prescribed in Article 2 of the law.

The purpose of the law is the settlement of the relations related to scientific and scientific-technical activity as well as a creation of conditions for an increase of efficiency of scientific research and use of their results for providing a development in all spheres of public life.

The basic tasks of this Law are as follows:

- legal status of subjects of scientific and scientific-technical activity;
- economic, social and legal guarantees of scientific and scientific-technical activity, freedoms of scientific creation;

- primary purposes, directions and principles of state policy in the field of scientific and scientific-technical activity;
- plenary powers of public authorities related to the implementation of the state adjusting and management in the field of scientific and scientific-technical activity.

Necessary bases at the level of education are the important factor for a growth of scientific and technical progress. Some terms, necessary for this purpose, have already existed, these are: governmental scientific programs, agreements (like a memorandums between Department of Education and Science of Ukraine) as well as scientific or other organizations which operate in the area of science. And some, I hope, still will be developed and accepted, taking into account previous shortages, failings, errors and etc. *The law on collaboration between Department of Education and Science of Ukraine and the National Academy of Sciences of Ukraine* is an important step for creating communication between various scientific establishments (including governmental bodies), with the purpose of close collaboration and maximal and effective use of the already acquired achievements of science and technique in different industries and directions. In the first article of this law there are perspectives of development in such directions mentioned, such as:

- development of scientific, scientific and technical, problems in a development of science, education and economy;
- forming and implementing the regional scientific, scientific and technical and innovative policy;

- development of scientific, scientific and technical, socio-economic, theoretical and methodical problems of development of science, education and economy;
- forming and implementing the regional policy;
- providing development of scientific, educational and technical activity of common scientific establishments, educational establishments, regional centers, faculties, departments, laboratories; input of new forms of integration of science and education;
- creation of general scientific and scientific-educational complexes;
- search, selection and formation of talented young people; creating terms for an increase of prestige of scientific and scientific-educational activity.

These and a lot of other points of the law prove that the prospects of scientific and technical development in Ukraine exist, and they are stopped up on early stage – stage of gaining of education.

A next important document that brings in the prospects to develop a scientific and technical process was signed on 28 October, 2003. It was a memorandum “*About the mutual understanding between Department of Education and Science of Ukraine and Corporation Microsoft*”. Article 1 of the document says that “Sides will develop collaboration in industry of using modern information technologies in activity of Ministry”. Article 2 lists the following measures:

1. Assistance to computerizing educational establishments of Ukraine by the use in educational process the Microsoft computer programs;
2. Providing the development of research works in information technologies industry in research and higher educational establishments inferior to Ministry;
3. Stimulation of pedagogical, organizational and methodical work from achieving the most gifted school-boys, students, young specialists and scientists;
4. Continuation collaboration of Sides on localization of Microsoft products with the purpose of their use in Ukraine;
5. Development and realization of other common measures.

One more important document for scientific and technical progress is the “*State scientific and scientific-technical program*”. The entire program is extraordinarily important and necessary. One of most achievements of humanity in the last century is a computer. This achievement is useful and necessary, because at present it is heavy to live without this achievement of science and technique that got to all spheres of human life. That is why it would be especially desirable to mark the fourth point of the program – “*New computer facilities and technologies of informatization of society*”. The point is divided into sub-clauses:

4.1. State scientific and technical program

“New home intellectual computer facilities”

4.1.1. Creation intellectual highly productive multiprocessor computers for the decision of tasks in the spheres of economy, protection capabilities, education.

4.1.2. Development of the typical facilities of the computing engineering.

4.1.3. Development of competition capable models of neuro-computers.

4.1.4. Development of the problem-oriented systems and program-vehicle facilities of digital treatment of signals.

4.2. State scientific and technical program

“Systematic analysis, methods and facilities of process control of a different nature; methods of optimization, software and information technologies in the difficult systems”

4.2.1 Development of the methodological, algorithmic and program facilities of systems analysis of a different nature processes.

4.2.2. Creation of program facilities and technologies of support informative-analytic researches in the difficult distributed systems of organizational management.

4.2.3. Creation of program facilities and technologies for providing of Ukrainian-language computer informative environment.

4.2.4. Creation of the informative-program network technologies for electronic business.

4.3. State scientific and technical program

“TV communications systems and informative resources “

4.3.1. Creation of the perspective TV communications systems and technologies.

4.3.2. Creation of TV-communicative infrastructure for the transmission of informative streams on the basis of digital wide stripe microwave and optic-electronically systems and technologies.

4.3.3. Creation of corporate electronic informative resource from scientific and technical and economic information and the system of its management.

4.3.4. Creations of data-bases consideration, registrations and examinations of scientific-technological activity.

4.4. State scientific and technical program

“Scientific and educational device building”

4.4.1. Development of the devices and equipment with a high spatial settling power.

4.4.2. Development of measuring and program-vehicle complexes for application in the sphere of science and education.

4.4.3. Development of the metrological providing, tools, systems of automation and computerizing of measuring and control of difficult objects of a different nature.

Of course, all these programs, laws, memorandums and agreements are necessary for a subsequent development of the science, for a creation of development prospects of different fields of science and technique, but no less important is the system of encouragement of scientists to their scientific activity, that nowadays is unfortunately not in the best state (for example, researchers and

scientists in Ukraine get the wages that are approximately 15 times lower than their European colleagues). But so far all possible have been done to support research workers in their activity, and the order of the president of Ukraine testifies it. According to this order (Decrees of President of Ukraine from April, 9 in 2002 № 315 and December, 24 in 2002 № 1210) young scientists – PhD candidates and doctors in different fields of sciences – were awarded with grants of the President of Ukraine.